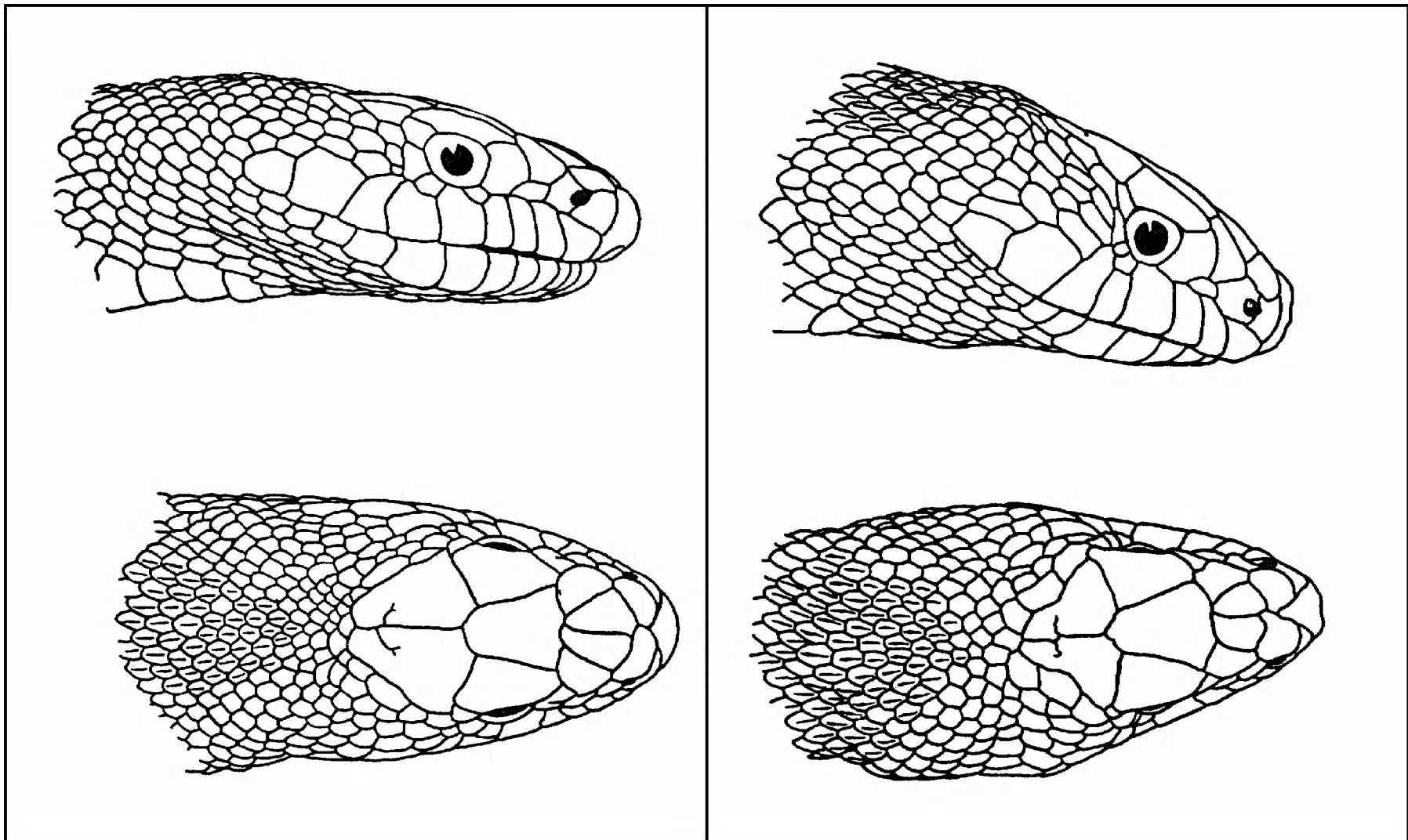

BULLETIN

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Volume 37, Number 10
October 2002



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Cover: Left – Great Basin gophersnake, *Pituophis catenifer deserticola*. Right – northern pinesnake, *Pituophis melanoleucus melanoleucus*. Drawings from *Variations and Relationships in the Snakes of the Genus Pituophis* by Olive Griffith Stull, United States National Museum Bulletin 175, 1940.

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Breeding *Pituophis*

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Introduction

Pituophis (pit-chew-o-fuss) is a genus of North American snakes. These snakes go by many common names throughout the U.S., notably bullsnake, gophersnake and pinesnake. I began working with *Pituophis* when I took up captive breeding because they are a hardy and inexpensive species. As I began to work with these animals, I became more and more fascinated with this remarkable genus. They display an awareness of their surroundings that is uncommon among ophidians. The understanding of these creatures is why Kern Reptile Research Center was born.

I have discovered that *Pituophis* species are among the few commonly captive-bred snakes left that still maintain clean lineages back to their wild ancestors. Most color morphs as well as “locality-specific” specimens can be traced back to their wild beginnings. I have also learned that true “pituophis people” are very particular about where and from whom they acquire their animals. I am breeder of both locality-specific and color morph specimens. Locality-specific specimens are those that come with pinpoint data as to their origins in the wild. This creates a sort of premium status, giving such specimens a greater value in the eyes of collectors. Some color morphs of *Pituophis* command a lower price than some locality-specific types due to the fact that some breeders have bred a particular morph trait into their breeding colonies. Taking an albino or normal phase bullsnake (*P. catenifer sayi*) from Colorado and breeding it with a normal looking bullsnake from Texas (also *P. c. sayi*) creates an unfavorable animal according to the standards of most pituophis people. However, if you have an albino or normal phase Colorado bullsnake (*P. c. sayi*) and you breed it with a normal looking Colorado bull (*P. c. sayi*), thus introducing the albino morph into that line but maintaining the locality purity, you have a more acceptable lineage.

Now let’s say for the sake of example you breed a Pacific gophersnake (*P. c. catenifer*) with a northern pinesnake (*P. m. melanoleucus*) — in so doing you have committed a cardinal sin. Your reputation will be flawed in the eyes of most pituophis people and your livestock will be almost worthless. My advice is to stick with known lines and morphs that come from reputable breeders.

Let’s cover some legal aspects of the hobby. Many states require some form of permit for owning, breeding, collecting, and/or selling of reptiles native to that state. Other states or municipalities may require permits for any type of reptile ownership, commerce or breeding regardless if it is native or not. So please check your local laws before starting a project — it will save time and money in the long run. A plus to having permits for native species is that it also adds a pedigree status to the animal because now its capture data are listed in state records. People with permits tend to have excellent hus-

bandry and record-keeping habits because the state may have unannounced inspections on the breeder and/or require yearly records to be submitted. In California you must have a valid state fishing license to hunt native reptiles plus an additional permit if you plan to captive-produce natives for commercial and/or non-commercial purposes.

I cannot stress enough the importance of keeping records, even if they are not required by your state. Keep track of everything about your animals. For example, some of the items I regularly track are: age; origin; history; any hidden traits such as heterozygous (het) for albino, etc; feeding dates; feed items; shed dates; growth rates; breeding dates; brumation dates; offspring production; and health problems and treatments.

Age and size

Let’s say you just got your hands on a pair of hatchling bullsnakes. The female should be a minimum of three years old before breeding is allowed. With some *Pituophis* it is more of a size issue than age. For example, with black pines (*P. m. lodingi*) their eggs are so large that it is sometimes better to wait an extra year in order to get the females size up to par. Snakes that are too small or “power fed” in order to reproduce faster often become “eggbound.” Add this to the several other known long-term complications and this can be very costly to you and the snake. A good rule of thumb is make sure your female is past the three-year mark, and adult in size. Some males will breed in two years though with few or no side effects. Males will also be smaller most of the time. *Pituophis* will reproduce most of their lives. I have heard of breeders in excess of twenty years of age.

Feeding and diet

Most *Pituophis* have very good appetites and will eat live or thawed food items without much concern on the owner’s part. The question is what to feed your growing and/or breeder *Pituophis*. We maintain ours on a primary diet of rodents. We feed them mice or rats that are about twice the size as the snake’s head. Large snakes get two or three of these and smaller snakes only one. We also supplement their diet with baby chicks every so often just for a change — plus *Pituophis* seem to relish them. We have found that baby chicks can stimulate their feeding reactions when they don’t seem to be interested in rodents due to pre- or post-brumation cycle, etc. It should be noted that a diet of only rodents is an acceptable diet, where a diet consisting only of chicks is not, chicks should be used only as a supplement. Also, steer clear of tap water; try to use bottled or filtered water to avoid all the chemicals found in municipal water supplies. When feeding captive-produced animals always remember that they have not been exposed to the same elements as animals in nature so it is not recommended to feed your captive a wild-caught lizards,

birds or rodents.

Housing of breeding stock

Pituophis require a good amount of room in their enclosures. Our males do fine in single level cages that are about 36 in long $\times$ 18 in wide $\times$ 6 in tall. The females are in cages that are “bilevel.” This works out well because we use the bottom level as the “nest box.” These cages are about 24 in square, the bottom level is 6 in tall and the top level is about 14 in tall. There is a 2½-in diameter piece of PVC pipe that connects two levels and allows the snake to crawl to either level with ease. We place the water dish and food items in the top level and the snake comes up from the bottom and feeds/drinks in a very natural fashion. The bedding we use is a sterilized hardwood chip product that we prefer over the usual aspen bedding found in most pet stores. However the aspen shavings, newspaper, and paper towel also work well.

Brumation

We prefer the term brumation to hibernation because reptiles don’t actually hibernate in the sense that certain mammals do. They stay somewhat active during their winter recluse. We find that it’s more the light cycle they react to than temperatures so we keep our *Pituophis* in total darkness during their whole brumation cycle. Our brumation chamber is basically a large wood crate lined with inch-thick Styrofoam that has a heat element set to come on when the temperature dips below 46°F. We place our breeders in plastic containers with ventilation holes and a small dish of water. To save space and give them the feeling of a more natural like den you can put several males in one container and females into another. Also place an extra amount of bedding in the container, as the snakes will like to burrow into it. We stack all these containers in the chamber close it up, only opening it to check the snakes every 3 weeks. To actually start the brumation cycle we drop their temperature a few degrees each day. We don’t allow the ambient temperature to drop lower than 46°F, 51 being ideal. We keep them down in this range for ten to eleven weeks. When we bring them out we gently increase the temperatures a few degrees each day until they are back to about 73 to 78°F.

Breeding

Now that you have your “pits” up to normal 78° temperature ranges it’s time to start feeding them. We feed every 6 to 10 days, feeding the males less often than the females. Once you have brought them out of brumation feed them regularly until they begin their post-brumation shed cycle. This shedding is the beginning of the breeding season because once she sheds she is covered with pheromones and this what stimulates the males. The next time she sheds her skin will be flushed of the pheromones, bringing an end to the season. After the post-brumation shed, put the female and male together. We keep them together for 6 days then we separate them and feed them. After 3 days of digesting we place them back together for another 6 days and repeat the process. We alternate which cage we place the breeders in, sometimes the male goes in the female’s cage and sometimes we do it the other way. The

male may stop feeding until after the female sheds again thus ending the breeding season. Once the breeding season ends and the male starts eating again, be sure they gain enough weight in time for the next brumation cycle.

Pre-egg-laying care

The female should be fed every 4 to 6 days after the breeding season ends. Once you know she is gravid cut down on the size of the food slightly but not the frequency as the time to lay grows near. She should begin to show signs of egg production shortly after she sheds. As she begins to swell, try not to disturb her very much; keep her warm, clean and calm. Once she starts spending most of her time in the nest box check there every day for eggs. The ball-park time for egg-laying is 30 to 45 days after copulation. Try to provide the female a warm spot on the floor of about 80–85°F to aid in her egg development.

Nesting and egg-laying

As I said earlier we use the lower level of my cages to create a nest box for the female to lay her eggs. The lower level is actually a kitty litter tray. We use the kitty litter tray because it is a dark plastic and does allow any light in to disturb the female. We find that *Pituophis* like dark, damp nesting areas. Once we see the female begin to roam the cage (as if she is looking for something) we remove the bedding substrate and replace it with damp green moss that you can get from your gardening store. The female will almost immediately go into the box and begin to nest. If you do not have bilevel cages, you can simply place damp moss into a plastic shoebox size container with a 2-inch hole cut in the lid at one end and several one-eighth-inch air holes around the top. The nice thing about doing it this way is that you can use the same container for incubation of the eggs. Just place another lid on top of the box to keep the hatchlings from escaping out the 2-inch hole.

We have found that green moss works better for us than vermiculite as a nesting and incubation substrate. We take the moss and mist it until it is nice and damp but not dripping wet. We then place it in the nest box. Be sure to check every day or so and mist it if it seems dry. The female may not be very happy about all the misting so when the time to lay eggs draws near refrain from it. Within a few days the female will lay her clutch of eggs in the nest box. Once they have been laid you must move them to the incubator before the eggs dry out.

Egg incubation

The following two procedures prove that there are several different ways to achieve the same results. The trick is to find what works best for you and your area.

We keep the eggs in plastic containers with one-eighth-inch holes punched about every inch or around the top edge. We fill it with about an inch of damp (not dripping) green moss, place the eggs inside sitting basically in the same position as when laid, then cover them with about another inch of damp moss, and close the lid. If the eggs are stuck together *do not*

try to separate them! We have found that green moss has a much better fungicide action than does vermiculite type products. Moss also suspends the eggs with less substrate contact to the shell thus allowing more airflow around the egg. Eggs can die if placed in vermiculite that is too damp, thus causing overabsorption by the egg. We then place this container inside a larger plastic tub that has holes. We fill this container with about an inch of water so to keep the humidity up in the egg container. Once the incubator is set up we place it all into a dark warm area that stays between 78 to 84°F most of the time. The eggs seem to develop better with a bit of variation in the incubation temperature. The warmer the temperature the sooner the eggs will hatch so figuring the exact hatch date can be a challenge. I take the easy way out and stick with the 50- to 70-day estimate.

“We use a closed airtight box with a vermiculite/perlite mixture with the eggs half way down. The vermiculite/perlite is dampened to the point where when squeezed in the hand it clumps together, but no water runs out. Adding a little perlite to the mix at a ratio of 20% perlite will loosen the medium. The box is opened every 5 days to check for moisture content, mold etc. The eggs are placed about 1½ in apart in the Rubbermaid sealed boxes. If moisture is needed, spray distilled water on the sides of the box rather than on the eggs. We incubate at 82– 84°F and do not use an incubator; rather we use a small open-air room (an old bathroom actually) in our facility where we regulate the temp using a space heater on a thermostat. Using this technique we have had 98.64% hatch in the last five years with over 11,700 animals hatched.”
(Courtesy of John Cherry – Cherryville Farms)

Approximate incubation/hatching times

Pituophis catenifer sayi (bullsnake): 48–55 days

Pituophis m. melanoleucus (northern pinesnake) 59–65 days

Pituophis c. catenifer (Pacific gophersnake) 54–59 days

(Courtesy of Bart Bruno)

Final thoughts

This article is intended for the beginning herpetologist/herpetoculturist who is interested in captive breeding. I feel that *Pituophis* are the perfect species for beginners or for the advanced herpetologist. Their attitude, size, and hardiness make them the ultimate pet as well as a breeding project. Keep good notes and records and you will begin to see patterns and cycles that are quite fascinating. Nothing is more rewarding than when you begin to see your own ideas, creations and predictions come to pass.

Get involved your local reptile club, zoo, etc., too, and help inform and educate the public about these and all the other wonderful reptiles and how necessary they are for the survival of our planet.

Acknowledgments

Special thanks to Terry Parks, John Ginter, Bart Bruno, Terry Vandeventer, Gerry Salmon, Gary Ballam, Glen Fankhauser, Terry Lilley, Steve Weissman, John Cherry, John Meltzer, Mike Waters, K. J. Lodrigue, and all the others.

Year 2001 Snakes from Chihuahua, Mexico

Julio A. Lemos-Espinal¹, David Auth², David Chiszar³ and Hobart M. Smith⁴

Abstract

Distributional and variational data are reported for 54 snakes representing 22 taxa, one of which (*Thamnophis v. validus*) is new to the state.

The herpetological collection secured by JLE during the summer of 2001 contains 54 snakes representing 22 taxa, which we here report. All specimens were taken in Chihuahua except a few from Coahuila and Durango, so indicated. All specimens are in the collection of the Unidad de Biología, Tecnología y Prototipos, UNAM.

Arizona elegans exopolita Klauber. One: 8551, Balleza (26°55'48.3"N, 106°28'57.3"W), 1638 m, 12 September. The scale rows are 27, the body blotches 53 (the maximum known for the subspecies, and the minimum for *A. e. philipi* fide Dixon and Fleet, 1976). The locality is the southwesternmost known for the species in Chihuahua.

Crotalus atrox Baird and Girard. Ten: 7384, betw San Dionisio and Tlahualilo, Durango (26°10'52.7"N, 103°41'0.0"W), 1114 m, 23 July; 7448, 7462, Rancho Peñoles (27°7'49.5"N, 103°48'45.0"W), 1194 m, 25 June; 7592, betw Esmeralda and Ejido de José de Carranza, Coahuila, 29 July; 7795, Rancho El Vergel, nr Samalayuca (31°11'58.8"N, 106°35'44.3"W), 1248 m, 1 August; 7886-90, 7899, betw Ejido San Dionisio and Sierra La Campana, Durango (26°10'52.7"N, 103°41'0.0"W), 1114 m, 1-2 September.

Crotalus lepidus lepidus (Kennicott). Two: 7593-4, Estación del Oro, S end Sierra Mojada, Coahuila (27°14'25.5"N, 103°31'20.0"W), 1141 m, 29 July. One specimen conforms with all diagnostic features of the subspecies, but the other lacks any mottling between the dark rings, has no postocular dark stripe, and the nuchal blotches are not visible. The anterior dark rings are dim, especially toward the head, becoming almost indecipherable. This specimen thus resembles *C. l. klauberi*. On geographic grounds both specimens are referred to *C. l. lepidus*.

Crotalus m. molossus Baird and Girard. One: 7313, Basi-huare (27°27'58.4"N, 107°29'41.6"W), 1812 m, 16 June. This young specimen, at 413 mm total length (TTL), has but one segment in the rattle, in addition to the button, possibly indicative of very rapid growth. The tail has nine or ten dimly visible dark bars on a nearly black ground color.

Crotalus p. pricei Van Denburgh. Two: 8210, betw Divisidero and San Rafael, mpio Bocoyna (27°40'22.0"N, 107°43'28.1"W), 2427 m, 8 September; 8221, betw Creel and San Rafael, mpio Urique (27°31'18.2"N, 107°50'50.5"W), 2313 m, 8 September.

The latter specimen is brightly marked, with crossbands and no separate spots except a few on each side between diagonal crossbands. No. 8210 is dark, with mostly paired dorsal spots.

Crotalus s. scutulatus (Kennicott). One: 7859, Cañon de Parrita, mpio Chihuahua (29°21'33.8"N, 106°26'40.1"W), 1650 m, 4 August.

Crotalus willardi silus Klauber. One: 8209, betw Creel and San Rafael, mpio Bocoyna (27°40'7.0"N, 107°44'40.4"W), 2198 m, 8 September. This DOR 355 mm TTL specimen contained a medium-sized *Sceloporus j. jarrovii*.

Heterodon kennerlyi Kennicott. One: 7440, Rancho Peñoles (27°7'49.6"N, 103°48'45.0"W), 1194 m, 24 July. A typical adult from the extreme southeastern corner of the state, with three azygous scales and 1-1 loreals.

Hypsiglena torquata jani (Dugès). One: 7372, nr Balleza, km 65 Balleza-Guachochi (26°57'31.6"N, 106°24'49.5"W), 1625 m, 20 June. This adult specimen is from slightly west of the southwesternmost locality noted by Dixon and Dean (1986).

Lampropeltis getula splendida (Baird and Girard). One: 6949, Cerros Santa Anita (29°40'14.1"N, 105°19'25.4"W), 1490 m, 8 June. This typical adult adds another locality of occurrence in eastern Chihuahua to the one recorded by Lemos-Espinal et al. (2002).

Masticophis flagellum lineatulus Smith. Four: 6823-4 (heads only), Ejido Polvorillas (28°47'36.2"N, 104°13'30.8"W), 1476 m, 11 April; 7123, Rancho Las Cuatas (30°3'7.0"N, 105°54'13.0"W), 1304 m, 10 June; 7124, Rancho La Cepa (29°58'17.1"N, 105°39'57.7"W), 1272 m, 10 June. The two adult intact specimens are salmon red ventrally on the posterior part of the body and tail.

Pituophis catenifer affinis (Hallowell). One: 6673, 2 km W Bermejillo, Durango (25°53'21.3"N, 103°39'3.2"W), 1153 m, 1 April. A typical large adult with four prefrontals (one split in two), and one supralabial entering orbit.

Rhinocheilus lecontei tessellatus Garman. Three: 6948, betw La Escuelita and Santa Anita (29°38'25.4"N, 105°19'3.7"W), 1547 m, 8 June; 7121, Instituto de Ecología N Aldama (28°51'12.0"N, 105°52'5.4"W), 1263 m, 7 June; 7590, betw Esmeralda and Ejido José Carranza, Coahuila, 29 July. These localities all fall within the range of this subspecies (Medica, 1975), but provide records where none previous-

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ly existed in eastern Chihuahua.

Sonora s. semiannulata Baird and Girard. One: 6793, Llano El Victorio (29°55'15.9"N, 105°39'58.7"W), 1282 m, 9 April. The scale rows are 15-14-14, ventrals 167, subcaudals 47 (female). The scales in the lowermost 3-4 dorsal scale rows are dark-centered, the others uniform light pinkish tan. The locality is within the range depicted by Frost (1983).

Werler and Dixon (2000) have documented the validity of *S. s. taylori*, making the species polytypic.

Storeria storerioides (Cope). One: 6677, Ejido Mesa El Zorrillito (26°3'34.8"N, 106°57'38.8"W), 2595 m, 2 April. According to Tanner (1985), this is only the fourth specimen taken in Chihuahua. It is a male, 198 mm TTL, with no evidence of red on the ventral surfaces. The loreal contacts the orbit on both sides. The locality is in the southern extremity of the state, about 240 km south of the previous records near Yaguirachic (Anderson, 1960) and San Juanito (Tanner, 1985).

Thamnophis c. cyrtopsis (Kennicott). Ten: 8204-6, Arroyo Seco (28°15'45.4"N, 107°29'35.1"W), 2191 m, 7 September; 8298, Cusarare (27°37'22.4"N, 107°32'38.4"W), 2302 m, 9 September; 8429, Napuchis (27°18'19.1"N, 107°31'40.2"W), 2179 m, 11 September; 8501, Basigochi de Aboreachi (27°12'12.2"N, 107°22'45.0"W), 2409 m, 11 September; 8527-30, Guazarare (27°3'47.2"N, 107°12'0.5"W), 2300 m, 11 September.

This species was found sympatrically with *T. errans* at Cusarare and Basigochi de Aboreachi. They are readily confused, but the supralabials are usually 7 in *T. errans*, usually 8 in *T. cyrtopsis*. They categorically differ in the appearance of the lateral stripes. In *T. cyrtopsis* the lateral light stripe is sharply delimited on scale rows two and three, and is bordered below by a sublateral dark line or series of dark spots. In *T. errans* the lateral light line is not sharply delimited, especially posteriorly, where it blends with the color of the first scale row; there is no sublateral dark line or series of dark spots.

These localities fall within the range depicted by Rossman et al. (1996).

Thamnophis cyrtopsis collaris (Jan). One: 7326, near Batopilas (27°6'53.8"N, 107°39'52.4"W), 687 m, 16 June. This juvenile conforms with the characteristics of this lowland subspecies, in particular in having the lateral light stripe sharply delimited on scale rows 2-3, and a sublateral series of dark spots.

Numerous other localities are given by Tanner (1985), all from lowland southwestern Chihuahua.

Thamnophis errans Smith. Eight: 8208, San Juanito (27°58'14.6"N, 107°35'43.3"W), 2280 m, 7 September; 8298, Cusarare (27°37'22.4"N, 107°32'38.4"W), 2302 m, 9 September; 8397-8, mpio Guachochi (27°33'11.5"N, 107°31'47.3"W), 2332 m, 10 September; 8521-4, 1.5 km S Basigochi de Aboreachi, mpio Guachochi (27°5'26.3"N, 107°14'40.3"W), 2400 m, 11 September.

All have 19-19-17 scale rows, 7-7 supralabials except for one with 8-8, 10-10 infralabials except for one with 10-11, 1-1

preoculars, 3-3 postoculars, one anterior temporal, 2-3 secondary temporals and 3-4 tertiary temporals. The single male is 467 mm TTL, the females 208 and 511 mm. The male has 167 ventrals and 91 subcaudals, the females 146-160 and 74-88 respectively.

The lateral light line is diffuse, not sharply delimited, especially posteriorly, where it is scarcely or not distinguishable from the color of the first scale row. There is no sublateral dark line or series of dark spots. Only the common borders of supralabials 9-10 are black; there are no other infralabial marks. The nuchal blotches are at least partly united in 5, separate in 3.

These features extend but little the ranges of variation noted by Rossman et al. (1996), and the localities all fall within the known range of the species.

Thamnophis eques virgatenuis Conant. One: 8207, Rancho La Manzana, mpio Bocoyna (28°4'51.8"N, 107°34'26.3"W), 2130 m, 7 September. The vertebral stripe involves the edges (less than half) of the paravertebral scale rows — more than is typical for the subspecies. However, the area between the vertebral and lateral light stripes is black except for scattered white flecks — typical of the subspecies. The taxonomic significance of the variation in this nominal subspecies and the adjacent populations of *T. e. eques* remains to be clarified.

Thamnophis m. marcianus (Baird and Girard). One: 7891, betw Ejido San Dionisio and Sierra La Campana, Durango (26°10'52.7"N, 103°41'0.0"W), 1114 m, 1 September. The restriction of the light lateral stripe to the second scale row, the prominently spotted body, and especially the striking 3-4 vertical white, black-bordered marks on the side of the head, readily distinguish this species. The locality is well within the range depicted by Rossman et al. (1996).

Thamnophis rufipunctatus (Cope). One: 8203, Río Papigochi, at San Pedro (28°23'35.9"N, 107°26'8.6"W), 2081 m, 6 September. This 277 mm TTL specimen lacks any readily discernible light stripes or dark spots. The lips have distinctive, light-centered vertical dark bars. The anterior edge of the ventrals and subcaudals is dark. Intervening between the anterior temporal and postoculars are 1-2 small scales, in this specimen. Variation in the latter feature is unknown.

The locality represented falls within the known range of the species (Rossman et al., 1996).

Thamnophis v. validus (Kennicott). One: 7332, Río Batopilas (27°1'37.3"N, 107°44'20.4"W), 550 m, 18 June. This female, 981 mm TTL, 230 mm TL, is the largest recorded for the species. In pre-ecdysis (eyes milky) when found dead at the side of the river, it shows no markings above (gray-brown) or below (bluish). It has 19-19-17 scale rows, 152 ventrals, anal divided, 75 subcaudals, 8-8 supralabials, 10-10 infralabials.

There is no other record for the species in Chihuahua, although it is known from adjacent Sonora and Sinaloa. The known variation in some scale counts of *T. v. validus* is slightly extended by the present specimen, it does not appear to be

distinctive subspecifically from *T. v. validus* (Conant, 1969).

Acknowledgments

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and AE003. We are grateful to Dr. Jack Sites for checking specimens in the museum at Brigham Young University, and to Dr. Robert G. Webb for taxonomic advice. The opinions expressed herein are those of the authors and do not necessarily reflect the opinions of the Department of Defense, the United States Air Force, or other federal agencies.

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Herpetology 2002

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

EPIDERMAL CYSTS IN *HYLA CREPITANS*

A. Hassl et al. [2002, *Herpetozoa* 14(3/4):127-131] report that a specimen of the treefrog *Hyla crepitans* collected in Venezuela exhibited epidermal cysts of about 5 mm diameter on the first (innermost) digit of each foreleg. Microbiological examination of the cyst contents demonstrated one type of germ only, the bacterium *Weeksella virosa*. These aerobic, gram-negative, *Pseudomonas*-related rods are ubiquitous soil- and water-inhabiting bacteria, known to be opportunistically infectious to immunosuppressed or traumatized vertebrates in which they lead to sepsis. *Weeksella* is apparently able to colonize cysts and, probably, to form necrotic foci in the epithelium of otherwise apparently healthy anurans.

PITVIPER MATING SEASONS

R. D. Aldridge and D. Duvall [2002, *Herpetological Monographs* 16:1-25] point out that in the majority of temperate zone snakes, the mating season is temporally dissociated from the time of fertilization. Similarly, in males, the mating season is often temporally dissociated from spermatogenesis. In temperate zone pitvipers of North America, estrus, the time when females signal that they are receptive to males, occurs at some time during vitellogenesis. In these pitvipers, vitellogenesis is initiated in the late summer or fall. The vitellogenic follicles overwinter at an intermediate size, resume development in the spring, and culminate with ovulation in the spring. The seasonal patterns of estrus (late summer/fall or spring or both seasons) vary among species and rarely among populations within a species. The authors' model assumes (i) that females determine the mating season, (ii) that there are significant costs to females during estrus, and (iii) that males adapt their mating season to the combined time when females enter estrus. The authors propose that the vitellogenic cycle of temperate zone pitvipers is simply a modification of the vitellogenic cycle seen in tropical pitvipers, the major difference being the interruption of vitellogenesis in temperate species by cold temperatures. In tropical pitvipers the vitellogenic cycle is continuous (no winter pause) and the mating season occurs at some time during vitellogenesis. As populations of pitvipers evolved into temperate climates, due to range expansion into temperate regions or climate change in existing ranges, the seasonal vitellogenic cycle was interrupted by winter. Since the mating season occurs during vitellogenesis, having a summer/fall and spring mating season is consistent with the tropical pattern. The different mating patterns we see today reflect a loss of either the summer/fall or the spring mating season. The reason for the loss may be due to the success of one mating season (all the females being fertilized) and the costs associated with having a redundant mating season. Since males also have significant costs associated with being prepared to mate, the loss of the female mating season would result in a corresponding loss of that season in males.

THAMNOPHIS VALIDUS DIET

A. de Queiroz et al. [2001, *Copeia* (4):1034-1042] note that the Mexican Pacific lowlands garter snake, *Thamnophis validus*, is found in aquatic habitats on the Pacific coast of México from the states of Sonora to Guerrero and in the Cape Region of the Baja California peninsula. The authors characterized the diet of *Thamnophis validus* through examination of stomach contents of museum specimens and from literature records. The diet of *T. validus* consists almost entirely of fishes and larval and adult anurans. There is strong geographic variation in the diet: snakes from uplands of Baja California contained only anurans, whereas the majority of snakes from mainland México that contained prey had eaten fishes. Mainland snakes show a pronounced ontogenetic shift from feeding primarily on anurans to feeding primarily on fishes. When mainland snakes are divided into three size classes, the intermediate class shows the most generalized diet (i.e., the most even distribution between fishes and anurans). The authors suggest that this nonmonotonic relationship between predator size and the level of specialization may be relatively common in snakes. Prey mass and the variance in prey mass both increase with increasing predator size in *T. validus*, as is the case for many carnivorous animals. *Thamnophis validus* apparently differs from other aquatic garter snakes (*T. atratus*, *T. couchii*, *T. hammondi*, *T. melanogaster* and *T. rufipunctatus*) in feeding heavily on adult anurans and in the common use of aquatic open-mouth searching behavior.

ABNORMALITIES IN CAPTIVE RED-FOOTED TORTOISES

J. C. Guix et al. [2001, *Revista Española de Herpetología* 15: 67-75] found morphological, behavioral and reproductive abnormalities in 19 adult female red-footed tortoises (*Chelonoidis carbonaria*) living in Brazilian zoos located south of the Tropic of Capricorn. These abnormal traits were first detected by: a) slight concave plastrons and relatively long tails; b) large differentiation of the clitoris into structures similar to a penis; c) egg retention and egg hypercalcification; d) vocalizations similar to those emitted by males and, in some cases, participation in incomplete combat events with males. Testosterone and estradiol analyses of the plasma of "normal" (n=9) and abnormal (n=6) females revealed higher levels of testosterone in the latter (30-250 ng/dl). Most of the individuals studied were collected in northern and northeastern Brazil, during the hatching period, and donated to zoos as juveniles. Two possible explanations for the origin of these abnormalities are considered: a) they were generated in natural habitats by low or high temperatures during embryo development; b) they were produced by endocrine imbalance, induced by the lower mean temperatures to which most individuals were exposed during postnatal development in southern latitudes.

[In Spanish]

AMPHISBAENIANS AND SNAKES OF NORTHERN MOROCCO

S. Fahd and J. M. Pleguezuelos [2001, *Revista Española de Herpetología* 15:13-36] have been studying the entire reptile community of the Riff, the least known region of Morocco from the standpoint of herpetofauna, since 1989. Sampling plots were near localities with available climatic data (precipitation, average temperature of the minimums for the coldest month, average temperature of the maximums of the hottest month); in addition, various geographical and structural variables were considered (altitude, slope of the sample plot, rock cover, soil type, vegetation height, shrubby and tree-canopy cover, biotope). This paper presents results on the distribution and ecology of 13 species of amphisbaenians and snakes (*Blanus tingitanus*, *Trogonophis wiegmanni*, *Eryx jaculus*, *Coluber hippocrepis*, *Coronella girondica*, *Macroprotodon cucullatus*, *Malpolon monspessulanus*, *Natrix maura*, *Natrix natrix*, *Spalerosophis dolichospilus*, *Psammophis schokari*, *Vipera latasti*, *Macrovipera mauritanica*). Zoogeographically, the Riffian fauna of reptiles showed high species diversity; the 43 species constituted 47.2% of the species in Morocco, and this was 12 times as many as the proportion of land area involved (Riff versus Morocco). Four factors are most important in giving that region such a large proportion of the Moroccan and Mediterranean reptile fauna: i) its proximity to the European continent (and the land-bridges existing during the Miocene), ii) the paleogeographic isolation of the region, which favored the operation of isolation mechanisms (endemisms), iii) the intrusion of some Saharan species by the Muluya Valley, and iv) the region overlooking the Atlantic seashore, which favored the upward intrusion of some western Maghrebian species. The paper includes dot distribution maps for the 13 species. [In Spanish]

PITVIPER ANTIPREDATOR RESPONSES

R. Shine et al. [2002, *Copeia* (3):843-850] note that few quantitative data are available on the ways in which venomous snakes respond to humans. They took advantage of extraordinarily high numbers of endemic pit vipers, *Gloydius shedaoensis*, on the small island of Shedao in northeastern China, to quantify snake responses. They approached free-ranging pit vipers in their ambush sites (either in trees or on the ground) and recorded their behavior. The snakes' responses to approach depended upon (1) the intensity of the stimulus; (2) attributes of the snake (size class, body temperature, whether it had fed recently); and (3) the snake's location (in an arboreal or terrestrial site). Most snakes tolerated close approach. Juvenile pit vipers struck more often than adults, and warmer snakes were more likely to flee, display, or strike rather than rely on crypsis. Snakes on the ground were more likely to flee or strike than were those in trees. Many of the same patterns were seen in laboratory trials. For example, striking was more frequent in juveniles than adults, in hotter snakes, and in snakes that displayed (tail-vibrated). Both strike speeds and tail-vibration rates increased with body temperature. Responses of Shedao pit vipers to human approach differ from those reported for other snake species.

EAST AFRICAN *CORDYLUS*

D. G. Broadley and W. R. Branch [2002, *African Journal of Herpetology* 51(1):9-34] review the small and previously neglected East African girdled lizards (excluding the *Cordylus warreni* complex) and recognize seven species. The terrestrial species *C. ukingensis* (Loveridge) is restricted to montane grasslands in southwestern Tanzania and may be of conservation concern. The arboreal species *C. tropidosternum* (Cope) extends along the East African coast from Kenya south to central Mozambique and west to the Democratic Republic of Congo. The smaller arboreal species *C. jonesii* (Boulenger) inhabits southern Mozambique, Swaziland, the northeastern provinces of South Africa, southern Zimbabwe and southeastern Botswana. Rock-dwelling species include two taxa from the eastern escarpment, *C. rhodesianus* and *C. nyikae*, *C. rivae* (Boulenger), which is redescribed from new material collected in southern Ethiopia, and the new species, *C. beraduccii*, from the dry Maasai Plain of Tanzania and southern Kenya. The latter species is named in honor of Joe Beraducci, the one-time Miami reptile importer, who collected the holotype on 22 December 1999. A key to the small East African species of *Cordylus* is included.

NONNATIVE TROUT AND PACIFIC TREEFROGS

K. R. Matthews et al. [2001, *Copeia* (4):1130-1137] used analyses based on surveys of > 1700 water bodies in a 100,000-ha area in the John Muir Wilderness (IMW) and Kings Canyon National Park (KCNP) to determine the influence of nonnative trout on the distribution and abundance of *Hyla regilla* in the High Sierra Nevada. At the landscape scale (JMW compared to KCNP), a negative relationship between trout and frogs in lakes was evident. In the JMW study area where trout are more abundant, only 7.2% of all water bodies contained *H. regilla* versus 26.6% in the KCNP study area. Also, the percentage of the total water body surface area containing *H. regilla* was 19.4 times higher in the KCNP study area than in the JMW study area. *Hyla regilla* were most abundant in portions of KCNP where the probability of finding lakes with trout is lowest and least abundant in the northern part of the JMW where the probability of finding lakes with trout is highest. At the water body scale, after accounting for the effects of all significant habitat and isolation variables, the odds of finding *H. regilla* in water bodies with no trout was 2.4 times greater than in water bodies with trout, and the expected number of *H. regilla* in water bodies with *H. regilla* and without trout was 3.7 times greater than in water bodies with both *H. regilla* and trout. *Hyla regilla* were significantly more likely to be found at the lower elevations (3000–3400 m) compared to higher elevations (3400–3800 m) and in shallow water bodies with high percentages of silt in near-shore habitats. This study demonstrates a negative relationship between fish presence and *H. regilla* distribution and abundance in lakes and suggests that *H. regilla* has declined in portions of the High Sierra with high numbers of trout-containing lakes. It adds an additional native species to the mounting evidence of landscape-scale declines of native species resulting from the introduction of predatory fish.

GARTER SNAKES AND AMPHIBIAN DECLINES

K. R. Matthews et al. [2002, J. Herpetology 36(1):16-22] reason that the dramatic amphibian population declines reported worldwide likely have important effects on their predators. In the Sierra Nevada, where amphibian declines are well documented and some are closely tied to the introduction of non-native trout, the mountain garter snake, *Thamnophis elegans elegans*, preys predominately on amphibians. The authors surveyed 2103 high-elevation lakes in the Sierra Nevada, quantified the distributional relationship between the mountain garter snake and anuran amphibians (*Pseudacris regilla*, *Rana muscosa*, and *Bufo* spp.) and used this information to evaluate the possibility that amphibian declines lead to declines of garter snakes. They observed a strong association between amphibian presence and garter snake presence. The probability of finding snakes in lakes with amphibians was 30 times greater than in lakes without amphibians. Lakes with snakes had higher numbers of amphibians within 1 km (mean = 4018.8) than did lakes without snakes (mean = 642.1). On a landscape scale, in Kings Canyon National Park (where 40% of larger lakes contain non-native trout) amphibians were found in 52% of lakes, and 62 garter snakes were found in 33 of the 1059 lakes surveyed. In contrast, in the John Muir Wilderness (JMW; where 80% of larger lakes contain non-native trout), amphibians were found in 19% of lakes, and no snakes were found in any of the 1044 lakes surveyed. Based on these data, the authors suggest that the introduction of non-native trout has led not only to the decline of amphibians but also to the decline of garter snakes. This study supports the hypothesis that the presence of amphibians is a prerequisite for garter snake persistence in high-elevation portions of the Sierra Nevada and that the introduction of trout into an ecosystem can have serious effects, not just on their prey but also on other predators in the ecosystem.

ACTIVITY PATTERNS OF RED HILLS SALAMANDERS

K. A. Bakkegard [2002, Copeia (3):851-856] notes that the Red Hills salamander (*Phaeognathus hubrichti*), a large fossorial plethodontid endemic to south-central Alabama, was listed as federally threatened in 1976. To determine the seasonal and daily activity patterns of this species, the author counted the number of salamanders present at burrow entrances, recorded the amount of time individual salamanders spent at entrances, and measured five abiotic variables to determine how they correlated with the number of salamanders at burrow entrances. Red Hills salamanders were present at burrow entrances all months of the year, displayed a unimodal daily activity pattern, and spent a mean of 12.3 continuous hours at an entrance each day. Regardless of season, time spent at an entrance remained relatively constant. Air temperature had the highest correlation with the number of salamanders present at entrances. Burrow entrances play a prominent role in the lives of these salamanders. When estimating population size for conservation efforts, surveys should be conducted at night and at multiple times and dates during the warmer months of the year because not all salamanders are present at entrances at any one time.

HABITAT USE BY AN ARBOREAL SNAKE

M. Fitzgerald et al. [2002, Copeia (2):321-332] note that simply classifying a species as “arboreal” may tell little about how it uses above-ground habitats. For example, some species of arboreal snakes select exposed positions on branches, others lie among foliage, and yet others exploit crevices within the trunk. These different structural niches may involve fundamentally different patterns not only of habitat selection criteria but also of morphological, behavioral, and ecological traits. The authors implanted radio transmitters in 16 adult Stephens’ banded snakes (*Hoplocephalus stephensii*) in a forest managed for timber production in northeastern New South Wales, Australia, and relocated these snakes regularly over a two-year period to clarify their patterns of habitat use. Unlike the vast majority of Australian elapid species, *H. stephensii* are primarily arboreal. Radiotracked snakes were in trees on >80% of observations, generally hidden within hollows. The snakes remained inactive in trees for three to five months during winter each year. Snakes in wet sclerophyll forest sometimes foraged in tall sedges, whereas snakes in rain forest spent little time on the ground. Attributes of 139 trees used by the snakes were compared with those of 1437 trees in randomly selected plots. Snakes selected old, large trees with many hollows or extensive vine cover. Except for being above ground, the retreat sites used by these arboreal elapids were structurally similar to those used by their terrestrial relatives. The tree attributes important to *H. stephensii* thus differ profoundly from those important to many other species of arboreal snakes.

YELLOW-LEGGED FROGS AND ANURAN PREY

K. L. Pope and K. R. Matthews [2002, Herpetologica 58(3):354-363] note that mountain yellow-legged frogs (*Rana muscosa*) at high elevations must obtain enough food during summer to survive 7–9 winter months when aquatic habitats are frozen and food is unavailable. Adult *R. muscosa* prey on a variety of organisms, including aquatic and terrestrial invertebrates and anuran larvae. To determine if anuran larvae influence the condition, distribution, and survival of adults of *R. muscosa*, the authors assessed body condition (variation from the expected mass for given length) and distribution of *R. muscosa* in relation to abundance and distribution of larval *Hyla regilla*, *Bufo canorus*, and *Bufo boreas*. Using three years of mark-recapture data, they found that abundance of larval *H. regilla* in a water body was positively correlated with the condition of *R. muscosa*. Moreover, *R. muscosa* had higher relative mass (W_r) values in areas with other anuran larvae than in areas with no other amphibian species. High W_r values significantly increased the probability of recapturing frogs in following years. Using surveys of over 1700 lakes and ponds in the John Muir Wilderness and Kings Canyon National Park, the authors also found that the presence of larval *H. regilla* or *Bufo* in a water body was a significant indicator of the presence of adults of *R. muscosa* after accounting for significant habitat and isolation variables. These findings taken together suggest that some adults of *R. muscosa* actively seek out water bodies with other anuran species during the critical summer months and that the anuran larvae provide a nutritious food source that increases the body condition and, therefore, survival of the frogs.

NEW ISLAND PITVIPER SPECIES

O. A. V. Marques et al. [2002, *Herpetologica* 58(3):303-312] describe a new pitviper species, *Bothrops alcatraz*, of the *Bothrops jararaca* group, from Alcatrazes Island, off the coast of São Paulo, southeastern Brazil. It differs from the mainland coastal populations of *B. jararaca* in southeastern Brazil mostly by its darker coloration; smaller size; lower number of ventrals, subcaudals and infralabials; number and shape of anterior cephalic scales; shape of hemipenis spines; intense coagulant activity of venom; and three specific venom proteins. From *Bothrops insularis*, another island species from southeastern Brazil, the new species differs mainly by its color pattern, smaller size, lower number of subcaudals in males, and absence of hemiclitoris in females. *Bothrops alcatraz* presents some features that may be viewed as paedomorphic within the *B. jararaca* group, such as small adult size, proportionally large eyes, intense coagulant venom activity, and diet composed of centipedes and lizards. The authors postulate that the dwarfism and characteristics of venom in *B. alcatraz* may be related to its diet (similar to that of juveniles of the mainland *B. jararaca*). *Bothrops alcatraz* and *B. insularis* may have originated through the isolation of populations of a *B. jararaca*-like ancestor on the Alcatrazes and Queimada Grande Islands, respectively. The new species is regarded as critically endangered due to its very small area of occurrence and the declining quality of its habitat.

SPATIAL AWARENESS BY AN ANOLE

T. A. Jenssen [2002, *Herpetologica* 58(3):364-371] performed a displacement experiment with free-ranging adults of *Anolis cristatellus*, a tropical lizard species whose year-round space-use requirements are limited to small arboreal territories. Because *A. cristatellus* is a relatively sedentary species, selection for a generalized spatial orientation would seem unlikely. However, more than two-thirds of 25 lizards returned to home territories within an average of 3 days when relocated 11–62 m (equivalent to 2–26 territory diameters) to presumably unfamiliar release localities. Within the conditions of the study, there was no significant effect on returning success by displacement distance, sex, or body size. The returning performance of *A. cristatellus* supported two inferences. First, considering the costs and risks of traveling through unfamiliar habitat, returning to a specific location from a distant release point indicated the relative importance of a familiar home range to survival and reproduction by both sexes. Second, returning performance indicated that *A. cristatellus* can at least generalize between familiar and unfamiliar views of landmarks to determine a novel route between its displaced site and its home locality (i.e., pilotage). The author suggests that the spatial ability demonstrated by *A. cristatellus* has not been selected in the context of “homing,” a phenomenon absent to this non-ranging species. Instead, the spatial cognition demonstrated by pilotage could be selected as a social mechanism, whereby a resident can spatially place itself, mates, competitors, and predators relative to its three-dimensional home range. By avoiding surprise, a resident who can anticipate encountering specific individuals at particular localities within its home range will gain a social advantage.

IMPORTANCE OF THE ANOLE'S DEWLAP

R. R. Tokarz [2002, *Herpetologica* 58(1):87-94] notes that one component of the courtship display of males in the lizard genus *Anolis* is the extension and retraction of a large and often colorful throat fan (the dewlap). However, the relative importance of displaying the dewlap during courtship in terms of male mating success is controversial. For this reason, he tested the hypothesis that the display of the male's dewlap during courtship affects male mating success in the lizard *Anolis sagrei*. The hypothesis was tested in the laboratory by comparing the mating success of experimental males that were surgically prevented from extending their dewlaps to control males that were not prevented from extending their dewlaps. Males in the two treatment groups were housed in individual cages for one week before being used in mating tests. One day prior to the mating tests, a male from each treatment group was visually exposed to the female that it would be paired with during the mating test. On the day of the test, each male was placed into the cage housing the female that it had been able to view. The behavior of the paired males and females was videotaped for two hours. The results did not support the hypothesis. Experimental males did not differ significantly from control males in number of copulations. Moreover, experimental and control males did not differ significantly in the latency period to copulation, copulation duration, or in the sexual receptivity of their female partners. These results provide no evidence that dewlap extension during courtship affects male mating success in *Anolis sagrei*, at least when males and females are in relatively close physical proximity.

PATTERNS OF DIVERSITY IN SPADEFOOT LARVAE

D. R. Buchholz and T. B. Hayes [2002, *Copeia* (1):180-189] note that larval spadefoot toads exhibit extreme developmental/endocrinological diversity. For example, New World spadefoot toads (*Scaphiopus* and *Spea*) have the shortest larval periods known among anurans, and the tadpoles of Old World spadefoot taxa (*Pelobates*) are among the largest known. To analyze the patterns of this diversity in an evolutionary context, the authors generated comparable larval growth and development data from 10 of the 11 taxa of spadefoot toads and from one taxon of parsley frog (*Pelodytes*), the nearest spadefoot toad relative. They found dramatic differences in growth and development among taxa, which indicated that taxon-specific physiology, rather than phenotypic plasticity, underlies larval period diversity. For all eight response variables (development rate, three growth rates, time to forelimb emergence, time to tail resorption, mass at tail resorption, and body length at tail resorption, taxa within genera were similar and differed from taxa in other genera. Larval *Scaphiopus* were small with short larval periods; larval *Spea* were large with short larval periods; larval *Pelobates* were large with long larval periods; larval *Pelodytes* were small with long periods. Though taxa in the same genus may live in different environments, larval growth and development correlated with phylogenetic groupings rather than breeding habitat. Mapping larval data onto a molecular phylogeny indicated that short larval periods, as well as rapid embryonic development and high temperature tolerance, originated within the spadefoot toad family.

Unofficial Minutes of the CHS Board Meeting, September 13, 2002

Jack Schoenfelder called the meeting to order at 7:31 P.M. Board members Darin Croft, Lori King and Ron Humbert were absent.

Officers' Reports

Recording Secretary: The minutes were distributed and read by Emily Forcade. Corrections were made and the minutes were accepted.

Treasurer: Greg Brim distributed the treasurer's report. Our year-to-date expenses exceed our income by approximately \$3,500.

Membership Secretary: Mike Dloogatch said the membership is holding at between 750 and 800. Steve Sullivan distributed a revised membership application, which was well received by the members. Mike Dloogatch made a motion to increase the individual membership rate to \$25 and the family membership rate to \$28. The institutional, sustaining and contributing membership dues would remain unchanged. A corporate membership rate of \$1,000 would be added. The increase in dues would take effect on November 1, 2002. Mike Redmer seconded the motion. It passed unanimously.

Vice-president: Lori King was absent. Lori has ordered another 200 massasauga T-shirts (the previous run sold out) to be ready in time for the Midwest Symposium.

Standing Committees

Shows: The Grossology exhibit returns to the Notebaert Nature Museum on the September 21–22. Jenny asked for volunteers to display some herps for the people who are waiting to get into the exhibit. The Tinley Park North American Breeders Show will take place on October 5–6. We don't know if the CHS will be involved. On October 26–27 the CHS will exhibit at the Notebaert Museum as a part of the pre-Halloween weekend. A big crowd is expected and Jenny asked for exhibitors. The CHS will exhibit at the Chicagoland Family Pet Show at Navy Pier on November 2–3. We will have a photo booth.

Raffle: Jack said we still need someone permanent to take over running the raffle.

Library: Steve Sullivan asked for volunteers to bring books from his office to the general meeting. Jack will bring in the metal rolling cart.

Adoptions: Rich Crowley suggested that people who adopt animals be asked to make a donation. There was a discussion about how to reimburse people who are paying expenses to care for animals pending adoption. Receipts given to the treasurer for expenses under \$25 are automatically reimbursed without board approval. Greg Brim moved to reimburse Linda Malawy \$200 for previously unreimbursed expenditures. The motion was seconded and passed unanimously.

Chicago Wilderness: Funding for the production of the poster of Chicago area reptiles and amphibians was discussed.

Ad Hoc Committees

Nominating Committee: Committee Chair Jim Hoffman said that the five-member committee (John Archer, Greg Brim, Dotty Humbert, Joan Moore and Jim) has approved a slate of nominees who have agreed to run for board member positions for 2003. This slate together with any nominations from the floor at the September meeting will be included with the October CHS *Bulletin*.

New Business

In October the Lerner newspapers will publish an article on herps as pets. The article will include interviews with Jack Schoenfelder and several other CHS members.

Steve Barten is interested in exploring new state legislation to define and list dangerous animals. The current legislation lacks specificity. Steve would like the CHS to participate. Jack is appointing an ad hoc committee to work on crafting the legislation. There will be a need to locate a legislator to sponsor a new law. Jack has appointed the following CHS members who have agreed to sit on the committee: Steve Barten (Chair), Bob Bavirsha, Rich Crowley, Mike Dloogatch and Linda Malawy.

Bob Bavirsha has 50 alligators waiting to go to Florida. They need holding areas, which Bob is working on.

Ideas and Suggestions

Jim Hoffman suggested that shows be listed on the website. It would also be nice to see the Herp of the Month listed. Jack suggested forwarding the board minutes to webmaster Chris Lechowicz. Emily Forcade offered to contact Chris with the requests.

Round Table

Greg Brim complimented Jim Hoffman on his role as Nominating Committee chair.

The meeting was adjourned at 9:35 P.M.

Respectfully submitted by Recording Secretary Emily Forcade.



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For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutritionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, \$.17 each; fuzzies, \$.24 each; hoppers, \$.30 each; weanling, \$.42; adult, \$.48. Rats: starting with pinks at \$.45 each, to XL at \$1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. P.O. Box 85, Alpine TX 79831. Call us **toll-free** at (800) 720-0076 or visit our website: <http://www.themousefactory.com>.

For sale: from Bayou Rodents, excellent quality feeder mice and rats. Every size available. Pinks starting at \$20/100. Orders are shipped by overnight service Monday thru Thursday. We accept Visa, MasterCard and Discover. For more info, contact Rhonda or Peggy, (800) 722-6102.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice available: small newborn pinks up to jumbo adults. Prices start at \$25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: **Pillstrom Snake Tongs** are available from the manufacturer and are shipped worldwide. Lengths/prices: 26"/\$58, 36"/\$59, 40"/\$60, 46"/\$61, 50"/\$62. Shipping and handling costs in the U.S.: \$8 for the first tong, \$1 for each additional. Pillstrom Tongs, 4617 Free Ferry Road, Fort Smith AR 72903-2363, (479) 452-3001 phone, (479) 452-3671 fax. E-mail: pillstromt@aol.com. Website <members.aol.com/mpillstrom>.

For sale: c.b. 2-year-old female green tree python, excellent condition, \$1500. Welcome to come see her in person. Mike Wood, (574) 269-3441. E-mail: 2bears@myvine.com.

For sale: Rat snakes. Cunningham's *Elaphe*—Specializing in rare *Elaphe*. Working with *E. dione*, *E. ridleyi*, *E. climacophora*, corns, and many more. Rick, (309) 353-9661. E-mail: rick1@ntslink.net. Web site: <http://www.cunninghamselaphe.com>.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: <<http://www.bluechameleon.org>>, E-mail: bill@bluechameleon.org, or call (941) 728-2390.

Herp tours: Experience the Amazon! Road-ride in Costa Rica! See and photograph herps where they live, have fun doing it, make good friends and contacts, and best of all . . . **relax!** From wildlife tours to adventure travel, **GreenTracks, Inc.** offers the best trips led by internationally acclaimed herpers and naturalists. See our website <<http://www.greentracks.com>> or call (800) 9-MONKEY. E-mail: greentracks@frontier.net.

Pet Services in Your Home: **All Pets, Unlimited** is owned by a licensed, certified and bonded veterinary lab technician with >20 yrs. experience. This service specializes in patient care as well as caring for your pets in your absence. **Exotics** are welcome and the service is veterinarian recommended. Please call Beverly McGrane for pricing information @ (312) 328-0648.

Wanted: Photos of Tony Janowski (a.k.a. Turtle Tony) taken during the last 10 years. Includes group photos, if clear. These are being collected for Tony's parents and sister. If you have such photos, and would allow me to copy them, please contact me. Theresa Moran, 321 W. Oakland Avenue, Lansing, MI 48906, (517) 372-5730, E-mail: wordenrl@acd.net. Thank You

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: <MADadder0@aol.com>.

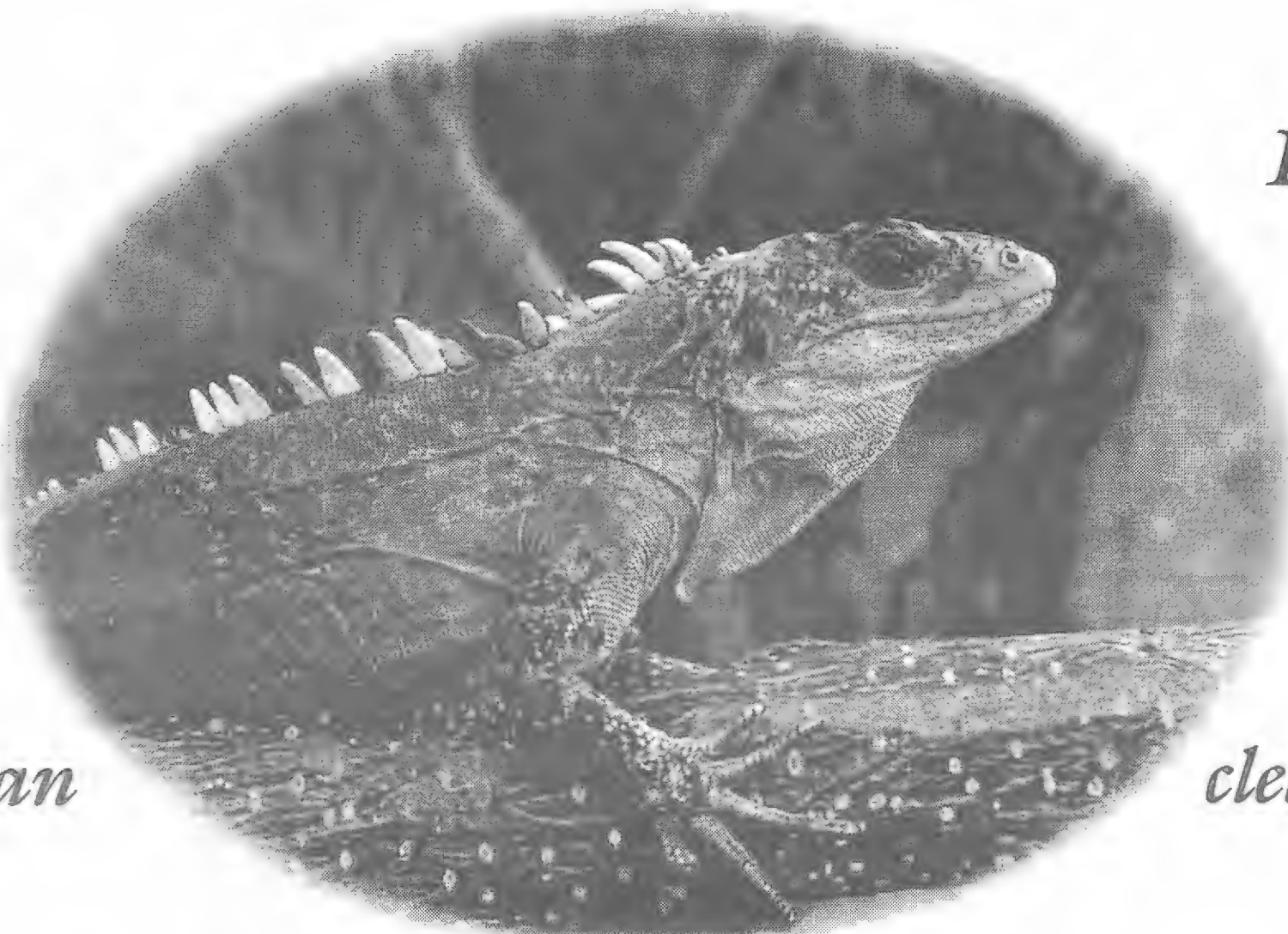
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of the
International Iguana Society
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March 17-24, 2003

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cuisine!*

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clear water!*



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- ◆ Inclusive price from Miami (airfare, lodging and meals)
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- ◆ After January 1, price is \$1,400

For more information, contact AJ Gutman at:
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All proceeds will be used for iguana conservation.

*Space is
Limited!*

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News and Announcements

2003 CHS HERPETOLOGICAL GRANTS PROGRAM

The Chicago Herpetological Society awards financial support for projects that are consistent with the society's missions of education, conservation, and promotion of herpetology. Several awards of up to \$500 each will be available. Interested parties may apply for a grant in any one of the following categories:

1. Illinois Herpetology
2. Graduate Student Research in Herpetology
3. Undergraduate Research in Herpetology
4. Conservation
5. Captive Management, Husbandry, Propagation, or Promotion of Herpetology

An attempt will be made to award grants in each category, but depending on the application received, not all categories may receive awards. Some categories may receive more than one award. The Grants Committee reserves the right to reassign the category under which a given proposal is submitted.

Applicants must be members of the Chicago Herpetological Society as of 31 December 2002. In accepting a grant, the recipient agrees to abide by all state and federal laws, and to acknowledge the Chicago Herpetological Society in any publications that result from the subsidized research. Recipients are encouraged to submit their work as an article for the CHS *Bulletin*, or to present a program at a CHS general meeting.

Applications should include the following:

1. Statement of the objectives of the proposal, and under which of the above categories the proposal is being submitted.
2. Description of materials and methods.
3. Complete budget, not to exceed \$500. Projects indicating availability of substantial in-kind contributions or other matching funds may receive additional consideration.
4. Brief resumé of the applicant, if an individual. If the applicant is an organization, background information on that organization should be included.
5. Letters of support from collaborating partners or institutions are encouraged; student applicants must include a letter of support from a faculty advisor.
6. Anticipated completion date for the project.

Applications and letters of support may either be mailed to the CHS at the address below or submitted by E-mail. Mailed applications must be typed, double spaced, and submitted in duplicate. If the application is E-mailed, it should be sent as an attachment in either WordPerfect or Microsoft Word format. Applications (other than budget and supporting materials) should be kept brief and simple, and proposals longer than three to five pages are discouraged. All applications must be received by December 31, 2002, and awards will be announced by February 15, 2002.

It is the goal of the Grants Committee to award grants to a variety of applicants; enthusiastic amateurs will receive equal consideration with professional herpetologists and graduate students. Topics which might translate into quality CHS *Bulletin* articles or monthly meeting programs are favored, though not requisite.

Submit typed applications to:

Chicago Herpetological Society
Grants Program
2430 N. Cannon Drive
Chicago IL 60614

Submit E-mailed applications to: CHSPublications@aol.com. Please specify "Grants Program" in the subject field.

Questions should be directed to Michael Dloogatch (773) 588-0728, or MADadder0@aol.com, or Michael Redmer, CHSPublications@aol.com.

News and Announcements (cont'd)

CHS NEEDS VOLUNTEERS

Have you ever thought about becoming more involved with CHS? Not-for-profit groups like CHS could not function without occasionally capitalizing on the volunteer efforts and professional skills contributed by our members. The CHS board has in past months identified a number of specialized skills which may be needed in the future to help with the mission and activities of the society. We will periodically post volunteer needs in this section, and will make similar announcements at monthly general meetings.

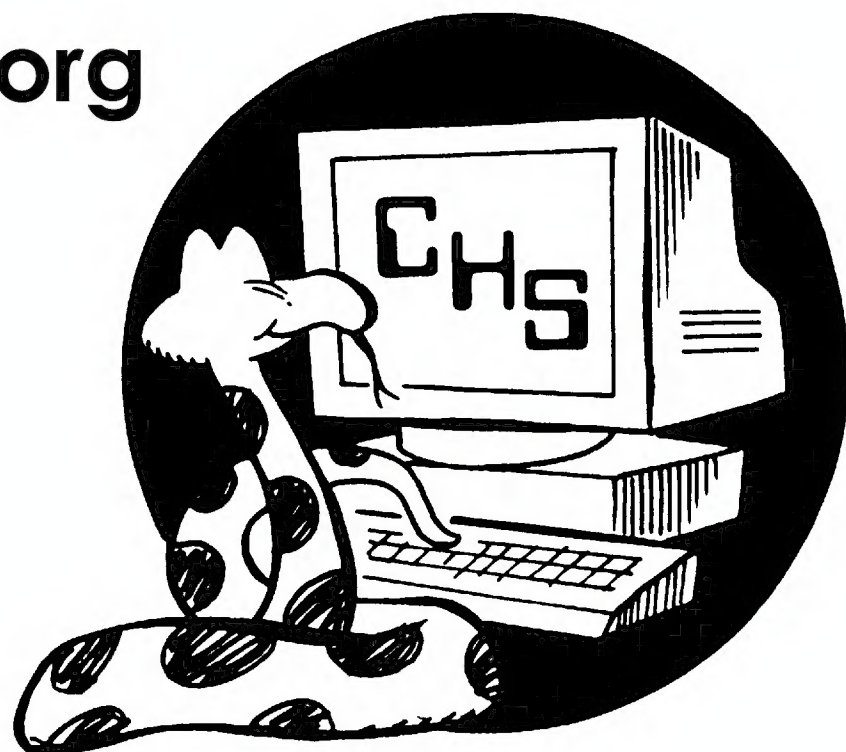
Our first needs: *LAYOUT, GRAPHIC DESIGN, PRINTING CONSULTANT*. The CHS is considering producing a series of high-quality, full-color educational posters. We will need help and consultation from members with professional backgrounds in graphic design and layout. Familiarity with color printing (additive and subtractive color correction) would also be helpful. If interested and qualified, E-mail Mike Redmer (CHSPublications@aol.com).

Next time you surf the WorldWide Web, crawl, run, slither, slide, jump, or hop over to the CHS web site!

www.chicagoherp.org

You'll find:

- Announcements
- CHS animal adoption service
- CHS events calendar & information
- Herp news
- Herp links
- Meeting/guest speaker information
- Photos of Illinois amphibians & reptiles
- Much, much more!



Chicagoherp.org is accepting applications for banner advertisements or links from herpetoculturists and manufacturers of herp-related products. Visit the site and contact the webmaster for details on how you can sponsor CHS!

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, October 30, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Charles Painter**, of the New Mexico Fish and Game Department, will speak on “Rattlesnake Roundups: Are They as Bad as You Think — Or Worse?”

The November 27 meeting will include the annual election of officers and members-at-large of the CHS Board of Directors. After the voting, **Dr. Steve Barten** will give a program.

The regular monthly meetings of the Chicago Herpetological Society now take place at Chicago’s newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the October 18 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot behind the building.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: <http://www.geocities.com/~chicagoturtle>.

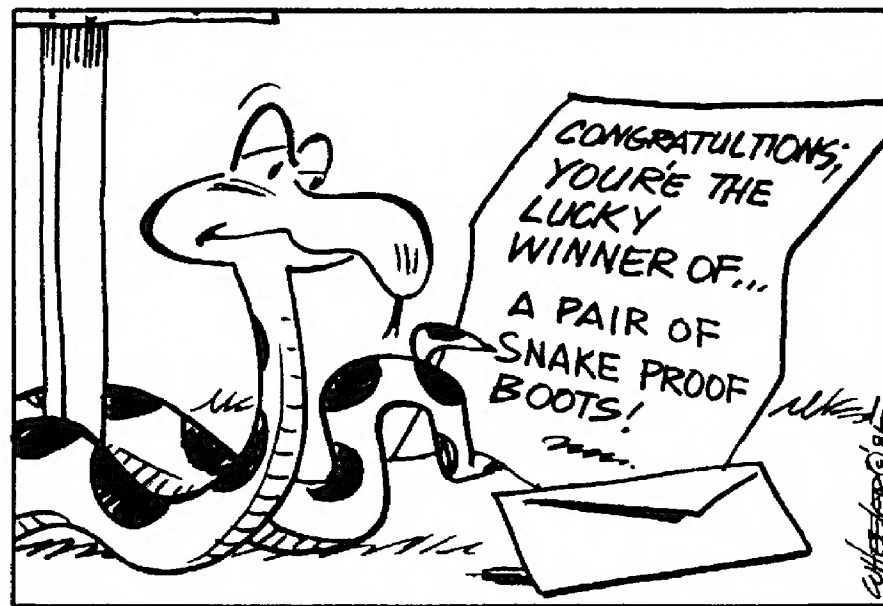
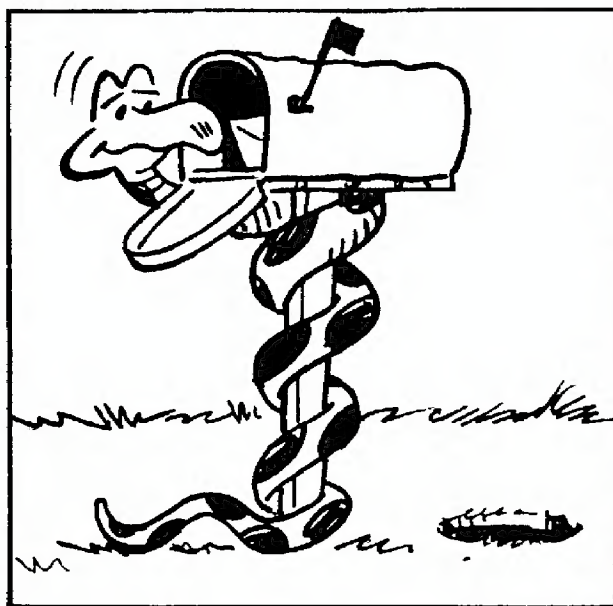
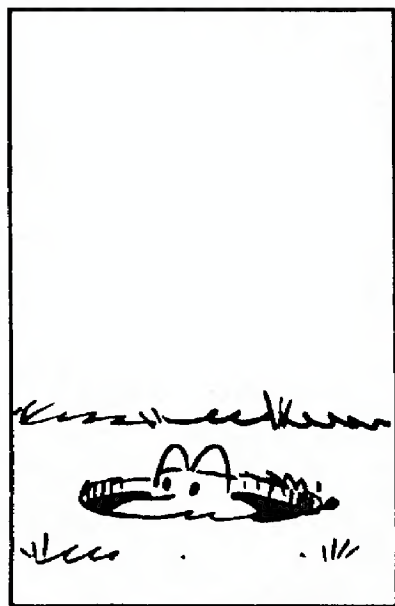
HERP OF THE MONTH

Each monthly meeting will showcase a different herp. CHS members are urged to bring one specimen of the “Herp of the Month” to be judged against the entries from other CHS members. Prizes will be awarded to the top three winners. For October, members are invited to bring **tortoises**.

NEW MAILING ADDRESS FOR THE CHS

The mailing address of the Chicago Herpetological Society is now **2430 N. Cannon Drive, Chicago IL 60614**. Mail to the old address will be forwarded to us for the next few months, but please make note of the new address.

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